TRETOCEPHALA DECIDUA GEN. ET SP. NOV., AN INTERESTING NEW HYPHOMYCETE

C.V. SUBRAMANIAN

Central Institute of Medicinal and Aromatic Plants,
Post Bag N° 1, P.O. RSM Nagar, Lucknow-226016 India.

ABSTRACT - An interesting dematiaceous hyphomycete collected on *Oncosperma horridum* Scheff. (Palmae) from Singapore is described. It is unique in producing solitary, one-celled lenticular conidia with a longitudinal germ slit from terminal, polytretic conidiogenous cells on simple conidiophores. Its taxonomy is discussed. It is placed in a new genus, *Tetrocephala*, as a new species, *T. decidua*.

RÉSUMÉ - Description d'un nouvel Hyphomycète récolté sur *Oncosperma horridum* Scheff. (Palmaceae) à Singapour. Il est original par la production de conidies solitaires, unicellulaires, lenticulaires avec une fente germinative longitudinale, formées à partir de cellules conidiogènes polytrétiques, sur des conidiophores simples. La taxonomie est discutée et un nouveau genre est proposé: *Tretocephala* avec une espèce nouvelle: *T. decidua*.

KEY WORDS : Hyphomycete, taxonomy, *Tretocephala*.

INTRODUCTION

As part of the author's continuing programme of work on tropical microfungi, the author has been studying his collections from Singapore made during his stay there at the National University during 1986-1987. An interesting new dematiaceous hyphomycete was collected on *Oncosperma horridum*. This paper deals with the description of this fungus and its taxonomy.

DESCRIPTION OF THE FUNGUS

The mycelium is superficial and is composed of thin, brown, septate, highly and reticulately branched hyphae 1.5-3.0μm wide, forming a plectenchymatous mat from which conidiophores arise in crowded clusters. The conidiophores are mononematous, simple, erect, straight or flexuous, brown, thick-walled except towards the apex where it is wider and paler, widest in the apical part which is broadly rounded or clavate, several-septate but faintly or thinly so, with the apical cell fertile and polytretic (Fig. 4 and 5), often proliferating percurrently to produce another fertile apex, (130-) 150-260-(310) x 3-4μm; the apical cell is 3.7-5.3μm wide. The conidia are solitary, one-celled, dark brown, thick-walled, lenticular and with longitudinal germ slit (Fig. 8), obovate and narrowing to a point at the base, with a distinct hilum at the pointed base, dry, typically deciduous so that clusters of conidia and the polytretric nature of conid-

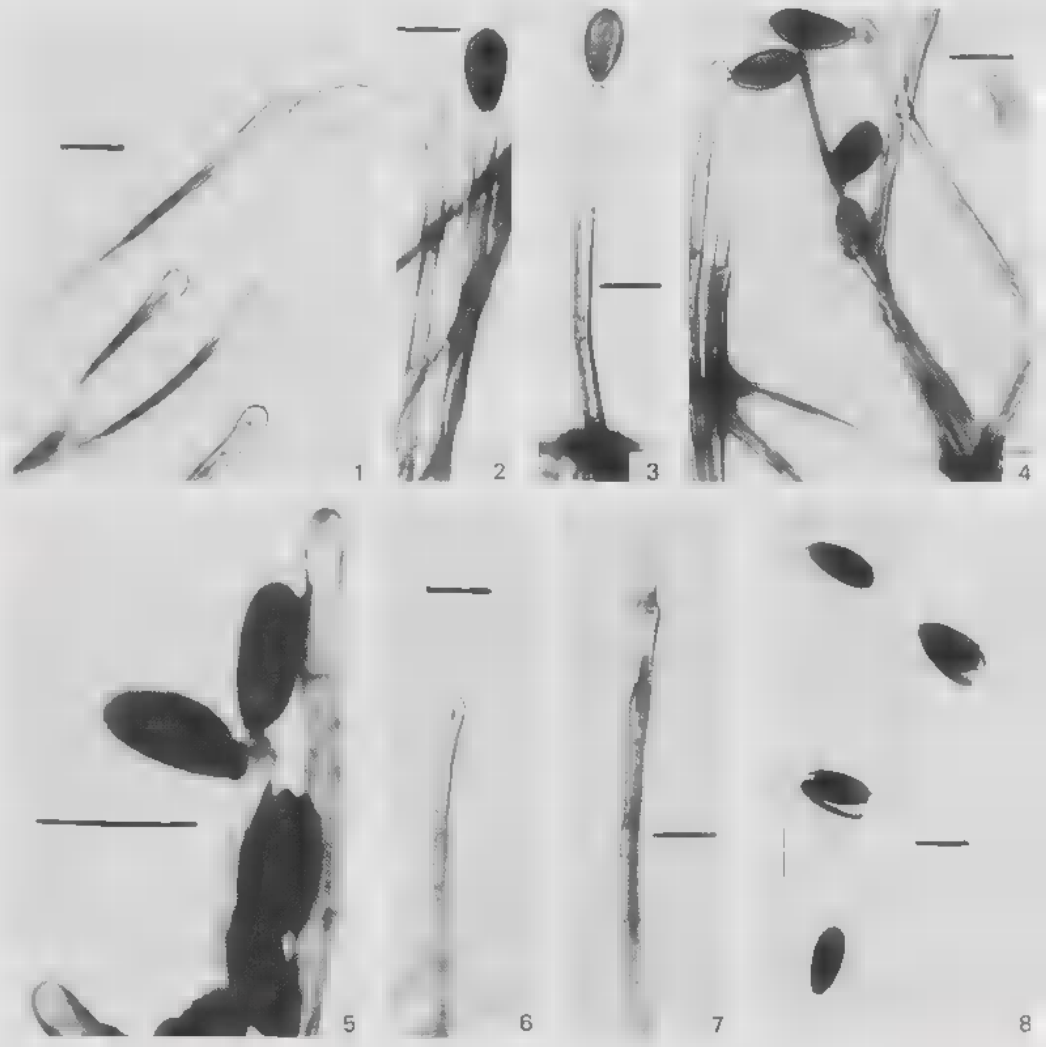

Fig. 1-8. *Tretocephala decidua* ex Type S 60. 1-5: Conidiophores and tretic conidia still attached. Note the polytretic nature of the conidiogenous cell in fig. 4 and 5. Note also the mature lenticular conidia with longitudinal slit. 6: distal part of young conidiophore. 7: conidiophore showing percurrent proliferation. 8: conidia, two of which show splitting along the longitudinal slit in 2 halves. Bar connotes 10μm.

Fig. 1-8: *Tretocephala decidua*. 1-5: conidiophores avec trétoconidies encore attachées. On notera la nature polytrétique de la cellule conidiogène sur les figures 4 et 5 et la fente longitudinale des conidies mûres. 6: partie distale d'un jeune conidiophore. 7: conidiophore avec proliférations percurrentes. 8: conidies dont deux sont clivées longitudinalement le long de la fente. Echelle = 10μm.

iogenous cells are not easily discerned. It is only by careful and critical observation that it has been possible to confirm the polytretic nature of the conidiogenous cell. The conidia are 12-17μm long, 5-8μm wide; the basal conidial hilum is 1.5-2.3μm wide.

This is an interesting hyphomycete. Its unique features are, of course, the simple septate conidiophores, the distinctive terminal conidiogenous cell which is polytretic, and the dry, deciduous one-celled lenticular conidia with longitudinal slit. Both *Diplococcium* Grove and *Spadicoides* Hughes which produce tretic conidia invite comparison with the present fungus. In both these genera not only the apical but other cells of the conidiophore are fertile. Additionally, in *Diplococcium*, the conidia form acropetal chains. Moreover, the lenticular conidia with longitudinal germ slit of the present fungus are unique. Such conidia are known in several hyphomycetes, but none, as far as the author is aware, in any taxon with tretic conidiogenesis.

A new genus *Tretocephala* is proposed to take in the present fungus which is itself disposed as a new species, *T. decidua* thereof. The generic name is suggestive of the tretic cluster of conidia on the apical conidiogenous cell; the specific epithet connotes the highly deciduous nature of the conidia.

TRETOCEPHALA **Subramanian anamorph gen. nov.**

Dematiaceous hyphomycete producing tretic conidia. Conidiophores simple, brown, septate, with apical cell conidiogenous, sometimes proliferating percurrently. Conidiogenous cell polytretic in the distal region. Conidia solitary, 1-celled, dark-coloured, lenticular with longitudinal germ slit, mamillate at base, deciduous, dry.

Hyphomycete dematiaceae conidia tretica producentes. Conidiophora simplicia, fusca, septata, cum cellula conidiogena. Cellula conidiogena polytretica versus apicem. Conidia solitaria, unicellula, fuscoatra, lenticularia cum fissura longitudinalis, mamillata ad basim, decidua, sicca.

Species typica:

Tretocephala decidua Subramanian sp. nov.

Tretocephala decidua **Subramanian sp. nov.**

Colonies effuse, black, powdery. Mycelium composed of thin, brown, septate, highly and reticulately branched hyphae 1.5-3.0μm wide, forming a plectenchymatous mat from which conidiophores arise in crowded clusters. Conidiophores mononematous, simple, erect, straight or flexuous, brown, thick-walled except towards the apex where it is wider and paler, widest in the apical part which is broadly rounded or clavate, several-septate but faintly or thinly, with the apical cell fertile and polytretic, often proliferating percurrently to produce another fertile apex, (130)-150-260-(310)μm long, 3-4μm wide; the apical cell 3.7-5.3μm wide. Conidia solitary, one-celled, dark brown, thick-walled, lenticular with longitudinal germ slit, obovate and narrowing to a point at the base, with a distinct hilum at the pointed base, dry and deciduous, 12-17μm long, 5-8μm wide.

Type: on leaf sheath and rachis of *Oncosperma horridum* Scheff. (Palmae) Botanical Garden, Singapore, Coll. C.V. Subramanian, 19. 11. 1987 (N° S 60).

Coloniae effusae, nigrae, pulverulentae. Mycelium ex hyphis tenuis, fuscis, septatis, ramosis 1.5-3.0μm latis compositum. Conidiophora caespitosa, mononemata, simplicia, erecta, recta vel flexa, fusca, crassitunicata, latiore, late rotundata vel clavata ad apicem, tenuiter vel obscure multiseptata, cum cellula apicalis conidiogena, subinde proliferata percurrens et producta aliae cellula conidiogena, (130)-150-260-(310)μm longa, 3-4μm lata; cellula apicali 3.7-5.3μm lata. Conidia solitaria, unicellula, atro-fusca, crassitunicata, lenticularia cum fissura longitudinalis, obovata, mamillata vel mucronata ad basim, decidua, sicca, 12-17μm longa, 5-8μm lata.

Typus lectus in rachidii folii Onchospermae horridae Scheff. (Palmae), hortus botanicus, Singapore, leg. C.V. Subramanian, 19.ii.1987. sub numero S 60.